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A descriptive case study of handicapped parking violations in a mid-western city

by

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ABSTRACT

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A Descriptive Case Study of Handicapped Parking Violations in a Midwestern City

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The purpose of this study was to determine the frequency of handicapped parking spaces being misused as it pertains to the implications for consumers with physical disabilities as they attempt to independently participate within the community. A descriptive case study of handicapped parking violations was conducted in a Midwestern city through observational methods. Factors identified in the literature were used in the design of the instrument. Subjects for this study were drivers and their occupant(s) who were observed parking in handicapped parking spaces by a trained observer. A total of 133 subjects were observed for this study. The trained observer recorded the data onto an instrument. The instrument was designed for this study.

Ten business parking lots were selected for this study based upon the geographical area and the high volume of customers they receive. The business parking lots consisted of two

grocery stores located in both affluent and non-affluent neighborhoods, three department stores, and a shopping mall center. A pilot study was conducted prior to data collection in order to determine the appropriate business and the appropriate time of day for conducting the observational trials. The selected business parking lots were each observed at one hour intervals for a total of three hours. Therefore, a total of thirty hours of observation was completed for this study.

The data collection procedures consisted of the trained observer situating the vehicle directly in front of or directly behind the handicapped parking spaces. The purpose of this was to ensure that the trained observer has a direct observational sight of all the handicapped spaces at all times. The trained observer remained parked in the car during the data collection for twenty-seven of the thirty observational trials. Three of the thirty observational trials were conducted outside of the vehicle in order to have a clear view of all handicapped parking spaces. The trained observer recorded the data by walking around the parking lot to observe the various forms of parking designations such as hanging placards and handicapped licenses.

Descriptive statistics were used to determine the frequency and percentages for analyzing the data for each research question. There were a total of four research questions for the purpose of this study. The major findings of this study demonstrated that there was a high percentage of misuse of handicapped parking permits e.g. hang-tags. In addition, the data demonstrated there was a very small percentage of non-disabled individuals *illegally* parking in handicapped parking spaces. An adequate analysis of data could not be conducted on research questions three and four, due to the small sample size for the site under observation.

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Lastly, and most importantly, I would like to acknowledge my husband Craig, my family and friends Julie and Denise, who provided me with many words of encouragement at a time when I was both emotionally and financially broke. Especially during the final year of my program while I was commuting back and forth to school, they gave me the strength to persevere forward in reaching my goal of obtaining a masters degree in Vocational Rehabilitation.

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CHAPTER ONE

Introduction

"People with disabilities are an emerging consumer group, a fact that becomes increasingly evident as we approach the 21st Century" (Warrender, 1996, p. 1). "The U.S. Census report has estimated that the disabled community represent an $188 billion dollar market to businesses" (Warrender, 1996, p. 1). This figure will continue to grow as more and more people with disabilities become aggressive shoppers (Warrender, 1996). However, in order to shop, people with disabilities will need somewhere to park and have access to the business community.

To address the issues of the availability of handicapped parking spaces, one study was conducted to determine the appropriate strategies for reducing violations of handicapped parking spaces. The study conducted two experiments. The first experiment was conducted in order to compare the effectiveness between upright versus ground handicapped parking signs for reducing illegally parked cars in handicapped parking spaces (Suarez De Balcazar, et.al. 1988). The second experiment studied the effects of the upright handicapped parking sign and the police enforcement program for reducing the frequency of handicapped parking spaces being inappropriately used.

For experiment one, drivers were observed parking at four different handicapped parking lots located in front of grocery stores (Suarez De Balcazar, et.al., 1988). The observer recorded whether the car was parking in the handicapped parking spaces appropriately or inappropriately. The authors defined appropriate use as displaying a license plate with a wheelchair symbol or the words "Disabled Veteran," or a blue window tag with the white wheelchair symbol. While inappropriate use was defined as not displaying any type of legal identification for parking in the handicapped spaces. The data was collected between 4:30 and 7:30 p.m. at one hour intervals, three times a week. "Data collection hours were determined by previous pilot observations

indicating these hours to be the busiest" (Suarez De Balcazar, et.al., 1988, p. 292). In addition, after the introduction of the independent variable (up-right handicapped parking sign), the follow-up data was collected at two, five, and eight months intervals (Suarez De Balcazar, et.al., 1988).

The results of the first experiment demonstrated that "upright signs displaying the international access symbol are more effective than ground signs in reducing the inappropriate use of parking spaces" (Suarez De Balcazar, et. al, 1988, p. 294). The data indicated that the inappropriate use of handicapped parking spaces were reduced "respectively" to 29% for space one and 18% for space two (Suarez De Balcazar, et. al., 1988). Prior to installation of the upright signs, the average percentage of intervals of inappropriate parking occurring in spaces one and two were "respectively" at 41% and 36%. In addition, the follow-up data collection demonstrated an average percentage of intervals of inappropriate parking "respectively" at 32% for space one and 17% for space two.

For spaces three and four of the first experiment, prior to installation of the upright signs, the average percentage of inappropriate parking occurred "respectively" at 20% and 18% (Suarez De Balcazar, et. al., 1988). After installation, the results demonstrated an average percentage of intervals of inappropriate use of parking were "respectively" at 4% for space one and 5% for space four. Further, the follow-up data collection for spaces three and four, demonstrated an average percentage of intervals of inappropriate parking were "respectively" 7% for space three and 5% for space four. Therefore, the concluding results for experiment one has demonstrated there was a reduction in the frequency of inappropriate use of handicapped parking spaces with the installations of the upright handicapped parking signs.

For the second experiment, drivers were observed parking in seven handicapped parking spaces located in three commercial parking lots (Suarez De Balcazar, et. al., 1988). "All parking spaces had a yellow ground sign displaying the international access symbol and an upright metal

sign located in front of each space" (Suarez De Balcazar, et. al., 1988, p. 294). The observational data was collected between 4:30 and 6:30 p.m., at one hour intervals, six times per week from Monday to Saturday (Suarez De Balcazar, et. al., 1988). The police participated during the one week experiment by conducting a citywide police crackdown program. "Approximately six regular police officers patrolled handicapped parking spaces in private lots at an average of once every two hours for twelve hours of each day" (Suarez De Balcazar, et. al, 1988, p. 295). Except for the control site, police officers were not aware of which parking spaces were being observed (Suarez De Balcazar, et. al., 1988). In addition, after the one week citywide police crackdown experiment was completed, follow-up measures were taken at one, five, eight, and twelve months.

The findings for experiment two demonstrated that prior to police crackdown, the average percentages of intervals of inappropriate parking were occurring "respectively" at site one and two at 20% and 27%, and 22% for the control site (Suarez De Balcazar, et. al., 1988). After the police crackdown, the average percentages of intervals of inappropriate parking occurred "respectively" at 12% and 15% for site one and two, and 30% for the control site. For the follow-up data collection, the average percentages of intervals of inappropriate parking for sites one and two were 3% and 1%, and 30% for the control sites. "During the crackdown, police officers issued a total of 60 tickets, with a fine of $25 per ticket" (Suarez De Balcazar, et. al., 1988, p. 295).

Therefore, the concluding results for the second experiment demonstrated how consistent police crackdown was effective for decreasing the inappropriate use of handicapped parking spaces (Suarez De Balcazar, et. al., 1988). Since at the control site where no police enforcement program was introduced, inappropriate use of handicapped parking spaces remained at similar levels during all experimental conditions. The overall results of the study demonstrate that the combination of up-right handicapped parking sign and the introduction of appropriate

consequences (fines) for illegally parked drivers, are an effective and feasible strategy for decreasing inappropriate use of handicapped parking spaces. However, “although the use of the upright signs can decrease appropriate parking, there is still room for further improvement” (Suarez De Balcazar, et. al., 1988, p. 296).

What is important to remember is that handicapped parking spaces are reserved for persons with disabilities who are unable to walk more than 200 meters unassisted (Available http: www.compusmart.ab.ca/acaging/parking.html, 1999). Individuals who meet this criteria are given a placard to be displayed inside their vehicle. “The purpose of the placard is to provide a recognizable method for law enforcement officials to enforce parking restrictions in designated parking areas” (Available http: www.compusmart.ab.ca/acaging/parking.html, 1999, p. 1). But unfortunately, there is misuse by the placard holders, who lend their vehicle to family or friends, believing that their vehicle has been given the right to park in the designated parking stall, as long as their placard is displayed (Available http: www.compusmart.ab.ca/acaging/parking.html, 1999). 1999). For instance, students on a university campus reported they have witnessed handicapped parking stalls being frequently occupied by individuals who have no apparent handicap (Available http: naio.kcc.hawaii.edu/bosp/Kapio/Sept_12_95/Handicappedparking.html). “Some of them borrow the placards from other handicapped members in their family to get the prime stalls on campus” (Available http: naio.kcc.hawaii.edu/bosp/kapio/Sept_12_95/Handicapped Parking.html, p. 1). “Ignoring the fact that the placard is assigned to the individual, not their vehicle” (Available http: www.compusmart.ab.ca/acaging/parking.html, 1999, p. 1). Another example of how the misuse of the placard card occurs, when the placard holder is in the vehicle, parked in the designated parking stall, but waiting while a passenger runs the errand (Available http: www.compusmart.ab.ca/acaging/parking.html, 1999). This is not the intended use of the placard. The placard is only used appropriately when it is displayed prominently in the vehicle,

parked in the building's designated area, and the individual has left their vehicle to enter the building. The solution to this problem has been to enforce the correct use of the placard in designated parking stalls by continuing to inform the placard holders and non-placard holders of its proper use.

The fraudulent use of handicapped parking permits are just one of the many common personal frustrations that people with disabilities incur each day. The following are quotes from people with disabilities who have expressed their frustrations with the misuse of handicapped parking stalls: "every day I need to arrive early on campus, not because of the lack of handicapped parking spaces, but because I continually find I have to compete with people who abuse handicapped permits" (Gregory, 1995, p. 1). "I know of individuals who are not handicapped borrow hang tags or use temporary permits longer than they should" (Gregory, 1995, p. 1). "I have witnessed people who appear to have no apparent physical disability use handicap permits and know other people who still use temporary permits after their injury or ailment is gone" (Gregory, 1995, p. 1). He further explains "the main problem is disrespect, these people need to realize that they are taking away something from other people" (Gregory, 1995, p. 1).

However, the misuse of placards and parking permits are not the only type of abuse of handicapped parking stalls. Even though parking spaces are clearly marked, some non-disabled people will continue to park in the designated parking stall reserved for the disabled (Available http: www.casagrande.com/~florencepolice/disabled.html, 1995). "Some people simply don't care" (Available http: www.casagrande.com/~florencepolice/disabled.html, 1995, p. 1). When approached, they're typical responses are "I'm just parking for a minute" or "I'm waiting for someone" (Available http: www.casagrande.com/~florencepolice/disabled.html, 1995). One individual observes

is it just me or is anyone else noticing people who park in handicap parking often exit

> their vehicle and make a mad dash into the stores nearby at a fairly quick pace, leaving behind in the parking lot elderly people and other handicapped persons with walkers, canes, wheelchairs, oxygen tanks, etc, to circle around and either wait for a handicap space to become available or park down the way (Yursik, 1999, p. 1).

Another example of this occurred when an individual with a physical disability decided to go grocery shopping with her husband (Available http: www.ktv-i.com/news/nf09_15_97.html). She and her husband were frustrated when they soon learned that all of the handicapped parking spaces were taken, and it appeared some of the cars were illegally parked. As a result, she and her husband were unable to park in the designated handicapped parking spaces. As they passed the handicapped parking spaces, they observed a girl in her early twenties hopping into her illegally parked car. Unfortunately, this isn't their only encounter with observing handicapped parking spaces being illegally obtained. For instance, one evening she and her husband decided to go dancing. At the nightclub there were six clearly marked handicapped spaces. "Five of the spaces had red cones and the sixth had a huge barbecue grill in it" (Available http: www.ktv.com/news/nf09_15_97.html, p. 2). When they approached the manager regarding this matter, he explained that the handicapped parking spaces were used as valet parking, and if the person who was handicapped needed the spaces, they would be happy to move the cones (Available http: www.ktv.com/news/nf09_15_97.html). In addition, the manager did not see this as a problem since their lot was privately owned, and they didn't need to comply with state parking laws. Further, he mentioned he has never observed handicapped people going dancing, much less at his establishment. She stated "I'm just wondering if it had ever occurred to them that they don't have many handicapped customers to go dancing because they can't park" (Available http: www.ktv.com/news/nf09_15_97.html, p. 2). Unfortunately, their discussion with the manager proved to be futile, the next evening they noticed five of the six handicapped parking spaces had the red

cones in them, and the sixth space continued to display the huge grill (Available http: www.ktv.com/news/nf09_15_97.html). The continuance of misuse of handicapped parking spaces will only continue to remain until the attitudinal barrier of "it's bad enough the best parking spaces are reserved for the handicapped" is finally removed (Available http: www.ao.net/~ted/parking.html, 1996, p. 1).

Statement of the Problem

There is a lack of empirical research data that documents the frequency of misuse in handicapped parking spaces. In addition, there is an overwhelming number of people with physical disabilities who feel frustrated with the issue of illegally parked cars in handicapped parking spaces. The purpose of this study is to examine the misuse in handicapped parking spaces and to develop a solution for reducing the misuse of handicapped parking spaces. Drivers who park in handicapped parking spaces will be observed at various business parking lots located in a mid-western city. Which includes grocery stores located in both affluent and non-affluent neighborhoods, three department stores, and a shopping mall center. A descriptive study will be conducted to collect data through observational methods. Data will be collected during the morning hours and evening hours at one hour intervals, five times a week, for three consecutive weeks, at a total of thirty hours of completed observations.

Statement of Research Problems

This study examines handicapped parking spaces for determining the following:

1) What is the frequency of handicapped parking spaces being consumed by non-disabled individuals?

2) Are the individuals who possess a handicapped parking permit physically disabled?

3) Is there a direct relationship between affluent and non-affluent neighborhoods and the frequency of misuse of handicapped parking spaces?

4) Is there a difference between grocery stores and department stores and the frequency of misuse of handicapped parking spaces?

Definition of Terms

For clarity of understanding, the following terms need to be defined.

Accessibility – "an accessible design is one that is usable by people with disabilities" (Available http: www.execpc.com/~edrehabe/access.html, 1998, p. 1). "The most common use of the word is for buildings, where an accessible building will allow people with disabilities to be able to enter all areas and be able to use all features"

Americans with Disabilities Act (ADA) – "the ADA prohibits discrimination on the basis of disability in employment, programs, and services provided by the state and local governments, goods and services provided by private companies, and in commercial facilities". (Available http: www.usdoj.gov/crt/ada/adahom.l.htm, 1999, p.1).

Disability - "the inability to do any substantial gainful activity by reason of any medically determined physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months" (Available http: www.ssdisability.net/disability.html, 1999, p. 1).

Limitations – "a restriction; a qualification; a restraining condition; to know one's own Limitations; to know the reach and limits of one's abilities" (Available http: www. Selfknowledge.com/55299.htm, 1999, p. 1).

Assumptions and Limitations

Data collection will be conducted through objective observational methods. As a result, limitations and assumptions may occur. Subjective perception (not accurately perceiving and recording the data) is one limitation with objective observational methods. Another limitation would be businesses that are not architecturally accessible for people with disabilities, and

therefore the handicapped parking spaces would not be occupied by people with disabilities. Lastly, assumptions are made about drivers, who physically appear to not require a handicapped parking permit, but may indeed require handicapped parking permits in order to avoid an elevation of their symptoms.

CHAPTER TWO

Literature Review

Introduction

This chapter reviews the implications individuals with disabilities face as consumers when attempting to independently participate within the community. Beginning with The Americans With Disabilities Act of 1990 (ADA) and the implementation of the 1990 accessibility guidelines that lay as the foundation for improving and increasing independence. However, despite the implementation of the ADA and its guidelines, the accessibility of buildings and transportation continues to exist which limits full participation of people with disabilities within the community. Further, if the disabled individual desires to independently move about within the community, the appropriate driving device mechanisms and vehicle modifications will need to be considered. In addition, the cost of driving device mechanisms and vehicle modifications are a contributing factor when facilitating independence. Lastly, this chapter reviews the marketing strategies of individuals with disabilities as consumers, and how attitudinal barriers are considered the most difficult for people with disabilities to overcome.

The Americans With Disabilities Act of 1990

The Americans With Disabilities Act (ADA) was implemented into law by President George Bush on July 24th, 1990. The ADA "redresses the many years of ignorance, misunderstanding, and prejudice toward the physically and mentally challenged" (Adams, 1999, p. 37). By mandating that "no individual shall be discriminated against on the basis of his/her disability" (Lynch, 1998, p. 30). Each individual with a disability has the right to experience "in the full and equal enjoyment of goods, services, facilities, privileges, advantages, or accommodations of any place of public accommodation," such as: shopping centers, restaurants, private schools, banks, and transportation terminals (Lynch, 1998, p. 30). Including the reduction

of architectural barriers to basic conveniences such as entrances and restrooms (Adams, 1999). But unfortunately, the government came to realize that not all building owners were willing to become accessible, nor were all employers willing to hire people with disabilities (Lynch, 1998). Therefore, the ADA implemented the accessibility guidelines of 1991 to assist employers and businesses to comply with the ADA. The overall purpose of the ADA guidelines is to ensure the prevention of employer discrimination against people with disabilities, and to enforce most buildings into becoming accessible (Lynch, 1998).

The ADA of 1991 (ADA)

The ADA is divided into five sections called Titles (Lynch, 1998). Title I pertains to employment, making it unlawful for employers to discriminate against individuals with disabilities when hiring and promoting qualified employees; Title II pertains to states and political subdivisions of a state such as; cities, towns, counties or departments where the services are provided; Title III pertains to buildings and facilities that are either privately owned or open to the public such as; theaters, office buildings, and restaurants; Title IV pertains to services for people with hearing disabilities such as; relay services; and Title V pertains to the procedural matters and enforcement (Lynch, 1998). Titles II and III of the ADA coincide with each other, making it unlawful for business owners to discriminate against people with disabilities when they try to obtain goods and services within the building structure (Lynch, 1998). In other words, businesses that are offering goods and services must be accessible for the disabled.

"No building structure housing business is grand-fathered (exempt) from ADA compliance" (Lynch, 1998, p. 24). All new construction since 1990 when the ADA was implemented into law, must be in 100% compliance (Lynch, 1998). Further, "any previous buildings must already have complied as much and as quickly as is readily achievable until every building is covered by this law is completely in compliance" (Lynch, 1998, p. 24). However,

access to buildings is only one facet of the issue. Transportation to the building and parking are additional facets that also need to be addressed. Parking lots should have the appropriate number of accessible spaces that are wider than normal in order for pedestrians to have access to an aisle adjacent to the car or van (Lynch, 1998). Further, the access aisle should be 60 inches in width, wide enough for a person using a wheelchair to enter and exit the car (Available http: www.usdoj.gov/crt/ada/adahom1.htm, 1999, p.1). In addition, the ADA stipulates that buildings must have an accessible route for people with disabilities (Lynch, 1998). In other words, "a continuous, unobstructed path of travel from the accessible parking to all exterior and interior public spaces, facilities, and functions" (Available http://www.equal-access.com/equal-access-glossary.html, 1999, p.1). The accessible route should never have curbs or stairs, and must be at least 3 feet wide, and have a firm, stable, slip-resistant surface (Available http: www.elines.com/page7.html, 1999). In addition, "accessible parking spaces must be located on the shortest accessible route of travel, and where buildings have multiple accessible entrances with adjacent parking, the accessible parking spaces must be dispersed and located closest to the accessible entrance" (Available http: www.elines.com/pag7.html, 1999).

The ADA also requires building structures to consider the space allowances and reach ranges for people with disabilities (Lynch, 1998). The "space allowances are based on wheelchair and scooter dimensions" (Lynch, 1998, p. 27). While "reach ranges relate to elements the public needs to handle and that may be too high or too low, such as door pulls or electric outlets, fire alarm boxes, or ticket counters" (Lynch, 1998, p. 27). Having the appropriate reach ranges and space allowances are especially important for safety measures when shopping via wheelchair. Because when the consumer in a wheelchair is forced to reach forward in order to obtain the product contained on a shelf, it could easily result in wheelchair instability, causing the individual to inadvertently tip his/her wheelchair over (Kirby, et. al., 1995, p. 367). Safety measures while

shopping by wheelchair is especially important. “There is an average of about 36,000 wheelchair related injuries a year in the United States that are serious enough for the injured person to seek attention at an emergency room, and this rate is rising” (Kirby, et. al., 1995, p. 367). “About 75 percent of these injuries are due to tips and falls” (Kirby, et. al., 1995, p. 367). What is even more chilling, 770 fatal wheelchair related deaths have been recorded by the United States Consumer Product Safety Commission (Kirby, et. al., 1995). Roughly 77.4 percent of those deaths were related to tips and falls (Kirby, et. al., 1995).

Therefore, a study was conducted to demonstrate wheelchair stability via the effect of body positioning (Kirby, et. al., 1995). The study examined individuals in wheelchairs and stability related to reaching and leaning forward, reaching and leaning backwards, and reaching and leaning sideways (Kirby, et. al., 1995). The results of the study concluded that reaching and leaning forward had the greatest effect on the stability of the wheelchair (Kirby, et. al., 1995).

In addition to the reach ranges and space allowances as stipulated by the ADAAG, mercantile and businesses providing sales and/or services to people with disabilities at their cash registers, a portion of the counter should be at least 36 inches high and at least 36 inches long (Lynch, 1998). If this is not feasible, staff will need to come around the counter and provide the services to the customer with a disability (Lynch, 1998). In addition, “stores displaying merchandise must maintain 36-inch-wide aisles” (Lynch, 1998, p. 29). Further, “shelving for self-service need have only one of each item within range, or staff must be willing to provide assistance” (Lynch, 1998, p. 29).

Buildings and Accessibility

However, the “ADA provides no enforcing mechanism except through the courts” (Lynch, 1998, p. 24). Individuals who are discriminated against, must initiate the process of going to court (Lynch, 1998, p. 24). The “complainants must do all they can to urge building owners or

managers to bring the facilities and services into compliance with ADA" (Lynch, 1998, p. 23). The ADA Accessibility Guidelines and the Americans with Disabilities Act (ADA) mandates that "all public accommodations are required to identify and remove, to the greatest extent possible, architectural barriers" (Available http: home.navisoft.com/sefg/page14.html, 1999). However, people with disabilities continually face barriers on a daily basis that prevent them from fully participating and competing in society (Zielinski, 1999).

The issue of accessibility, or lack thereof, has always been a major issue for a person with a disability (Thompson, 1996). The lack of accessibility in our nation today weigh heavily on the minds of people with disabilities (Thompson, 1996). It is only when they leave the confines of their accessible homes, when they begin to realize how inadequate this world is built for people with disabilities (Thompson, 1996). For instance, classrooms are often cramped and positioning a wheelchair in the room can prove to be difficult (Thompson, 1996). Likewise, shopping malls are a "nightmare" (Thompson, 1996). There is usually only one set of power doors, and many of the stores are completely cramped for wheelchairs to enter (Thompson, 1996). "In addition to malls, many restaurants lack the facilities to accommodate people with wheelchairs" (Thompson, 1996, p. 34). "Tables are hard to get under, order counters are too high, and in some restaurants, there is not nearly enough room between tables" (Thompson, 1996, p. 34). All of these barriers prevent people with disabilities in becoming independent as much as they would like to become (Thompson, 1996).

The continuance of architectural barriers in our nation is perplexing, considering that they're probably the most obvious and measurable barriers to breakdown (Zielinski, 1999). Although the Americans with Disabilities Act (ADA) provides some basic requirements for making public buildings accessible, some ways of meeting the requirements of the law are more helpful in practice than others" (Zielinski, 1999, p. 96). For instance, "it would be ideal if – in

addition to consulting with professionals and government officials - a building owner would consult those who use walkers, wheelchairs, crutches, and canes about their needs" (Zielinski, 1999, p. 96). "Often, if persons who use walking aids are not consulted, a building may have well-made but inadequate and even wasteful changes" (Zielinski, 1999, p. 96).

"If businesses want to send a message that they really care about accessibility – and earn the patronage of people with disabilities – it's critical that they start with things that can be accomplished right away" (Zielinski, 1999, p. 97). It's clearly not acceptable for building supervisors or owner to delay the changes to meet the local access codes until the very last minute (Zielinski, 1999). "Even though owners may find it tempting to delay changes because they believe the number of people who would benefit is too low to make the projects worthwhile, the number of users is not irrelevant – include us, we will come" (Zielinski, 1999, p. 97).

Transportation and Accessibility

The Americans With Disabilities Act of 1990 (ADA) mandates that public transportation is required to increase accessibility and provide nondiscriminatory services to persons with disabilities (Available http: www.fta.dot.gov/transcity/ada/ada.html). In addition, the ADA expanded the range of disabilities that public transportation must accommodate, and "gives the Federal Transit Administration (FTA) the responsibility for guaranteeing that all transit operators, nationwide, follow the law" (Available http: www.fta.dot.gov/transcity/ada/ada/html). Since the implementation of the ADA, there has been much improvement with transportation systems (West, et. al, 1998). However, "many individuals with disabilities have not seen improvements in the availability of accessible transportation" (West, et. al, 1998, p. 160). In fact, people with mobility impairments frequently find themselves at a disadvantage (Melton, 1998). This can be attributed to a lack of voluntary compliance from public transportation systems, cutbacks or discontinuation of public transportation, or a lack of transportation in smaller cities and towns,

and rural communities (West, et. al, 1998).

Accessibility and transportation is an issue that persons with disabilities need to face on a daily basis. For instance, “transportation to and from work is a critical issue in job exploration and placement for persons with virtually every type of disability” (West, et. al, 1998, p. 160). Individuals are unable to hold jobs they are unable to reach. “Therefore, reliable and affordable transportation is essential for bringing more individuals with disabilities into the work force” (West, et. al, 1998, p. 160). However, for many people with disabilities, reliable and affordable transportation is not always obtainable (West, et. al., 1998). Many individuals with disabilities will need to rely on others such as: co-workers, friends, or family members for means of transportation (West, et. al., 1998).

Transportation within the community is not necessarily only for employment purposes (West, et. al., 1998). Transportation is also important for recreational and social activities, and for the use of community resources and accommodations (West, et. al., 1998). “Transportation is therefore a prerequisite to self-determination of individuals with disabilities” (West, et. al., 1998, p. 160). “Self-determination refers to the degree to which individuals are able to exercise choice and control over both immediate and long-term decisions regarding their lives” (West, et. al., 1998, p. 160). Further, in a study conducted by West et al. (1995) of adults with disabilities, found that available means of transportation and independent mobility in the community was considered to be a major factor in perceived levels of choice and control (West, et. al., 1998). “Having a means of accessing different environments increased the range of options that were attainable in the areas of work, socialization, recreation, and housing” (West, et. al., 1998, p. 161). In addition, being mobile provided the subjects an opportunity to exercise control in deciding where and how they lived, instead of relinquishing the control over to family members or agencies (West, et. al., 1998). Therefore, the development of self-determination skills through

transportation methods, “has been shown to increase the likelihood of youth with disabilities becoming successful adults” (West, et. al., 1998, p. 161).

Transportation methods are also seen as an important factors in educational programs, especially when the student approaches the transition to adult life (West, et. al., 1998). Because students with disabilities who are dependent upon family or social service agencies for transportation are seen as functionally limited in the areas of post-school options such as: post-secondary education, training, work, housing, and leisure activities (West, et. al., 1998). Therefore, “increasing mobility and transportation skills and resources, increases the amount of choice and control that they experience in their everyday lives” (West, et. al., 1998, p. 161).

Driving Device Mechanisms/Vehicle Modifications

“The goal of mobility is freedom” (Bergen, 1997, p. 32). Therefore, individuals with mobility impairments spend a great deal of time, effort, and money in making vehicle modifications to ease their transfers (Melton, 1998). Why? Because the automobile contributes to the personal independence of a person (Wolff, 1997). “For many, especially persons who have been accustomed to the freedom afforded by the personal automobile, not being able to get into or out of the car and not being able to operate the standard pedals or control mechanisms truly can be devastating” (Wolff, 1997, p. 55). It isn’t always so simple for individuals who rely on wheeled mobility devices for independent movement (Bergen, 1997). For one reason, it is often clouded by the stigma associated with needing them, even though it may offer independence (Bergen, 1997). Secondly, there are many devices a person will need to consider when choosing the appropriate modifications to their vehicle (Bergen, 1997).

Therefore, it is recommended that disabled individuals consult with a rehabilitation specialist or a Home Medical Equipment (HME) provider, when selecting the appropriate vehicle modifications (Wolff, 1997). For example, whether to lower the suspension and/or install smaller

tires and wheels to ease in the transfers from vehicle to wheelchair (Melton, 1998). The HME providers specialize in promoting both independence and increasing the public's awareness of how driving aids can increase the ease and comfort for a disabled driver (Wolff, 1997). HME providers will listen to the customer and gain an understanding of their needs, and then match the equipment to their need, while creating a comfort level for the person so they may be able to use the equipment (Wolff, 1997).

HME providers assist in determining the appropriate equipment by placing each person into three categories or levels based on their disability (Wolff, 1997). The most severe level consists of individuals who have very limited mobility in their upper extremities (Wolff, 1997). Therefore, individuals at this level would be recommended to install the modification of the digital drive system (Wolff, 1997). "This system allows the driver to operate the automobile with a joy stick" (Wolff, 1997, p. 58). The second level or category of impairment are individuals who can use both arms (Wolff, 1997). Therefore, the electrical gas and brake system would be the choice to select (Wolff, 1997). This "requires little or no effort to operate with a special adapter near the steering wheel that manipulates the accelerator and brake system" (Wolff, 1997, p. 58). The third category would consist of individuals with full upper-body mobility (Wolff, 1997). At this level, individuals may only require the less expensive mechanical hand control that will operate the accelerator and brake system (Wolff, 1997).

Before the individual determines which equipment/modifications he or she will install, they must first determine what type of automobile they desire or require (Wolff, 1997). Then they need to consider what will be the intended use of the vehicle, who will be driving the vehicle, what type of transfer is required, and whether or not the person will remain in their wheelchair while driving (Wolff, 1997). In addition, when selecting the appropriate vehicle, the individual has to determine whether to attain additional headroom by raising the roof, or consider dropping

the floor (Wolff, 1997). Once the vehicle of choice has been selected, the individual begins to consider which devices and modifications should be installed in their vehicle for increasing his/her independence (Wolff, 1997).

The disabled driver begins his/her selection of modifications by first making the decision about what type of door operation, lift, and ramp system will meet the need (Wolff, 1997). For instance, drivers operating the vehicle independent of others, may select systems with more functions (Wolff, 1997). If the person with the disability will not be driving the vehicle, he/she may select manually operating doors (Wolff, 1997). This type of door modification increases the independence of the person by providing them a remote or set of switches that will open and close the lift door (Wolff, 1997). For individuals who require no assistance from others and are able to operate the lift by themselves, a fully automatic lift that offers power and speed such as the fold-out-and-store function may be the choice of modification (Wolff, 1997). “When a ramp is the desired mode of accessibility and neither the driver nor the assistant has a disability, a manually operating door with a fold-out ramp may be adequate” (Wolff, 1997, p. 57). After the individual has determined the appropriate door, lift, and ramp for their vehicle, the next decision is based on selecting the appropriate hand controls for independently operating the vehicle (Wolff, 1997).

“Hand controls are key to whether a person with a disability may be able to operate a vehicle” (Wolff, 1997, p. 3). Disabled individuals who do not require a lift or a ramp, and have the ability to get into and out of a car independently, hand controls may be the only modification needed to allow them to continue their independence (Wolff, 1997). When making the selection of hand controls, consumers are wise to remember that hand controls run the full gamut from simple to complex (Wolff, 1997). “Dealers who install hand controls should discuss with his or her customer what automobiles might be more easily adapted” (Wolff, 1997, p. 58).

"In addition to the actual modifications needed on a vehicle, the customer may require an orthosis or prosthesis to assist in driving" (Wolff, 1997, p. 59). The hand orthosis and/or other special attachments to the steering wheel, maybe all that is needed for someone with a limitation or an amputation for independently operating the vehicle (Wolff, 1997). In addition to these modifications steering devices are also available to increase the steering when only one hand is available (Wolff, 1997). "Many devices are especially designed for persons with quadriplegia or those with prosthetic hooks" (Wolff, 1997, p. 58).

There are many devices for a person to consider when making installations to their vehicle. What is key to remember is that when a person is not functioning the way he or she used to, modifications cannot replace the part, it can only substitute the part (Wolff, 1997).

The Cost of Driving Mechanisms

Sometimes the cost of modifying vehicles can only be afforded by individuals with deep pockets (Melton, 1998). In addition, some equipment and vehicle modifications, especially the innovative equipment, are not available to disabled individuals in the United States because the equipment is very costly, and liability insurance is too high (Norman, 1996). "Manufacturers of products to be used by persons with physical disabilities in this country must wear a straight jacket compared to manufacturers in other countries" (Norman, 1996, p. 24). For instance, France is just one of the many countries where many inventive and useful products are made elsewhere and will probably never be seen here in the United States (Norman, 1996). Because the cost of liability insurance is too high, and the inventor cannot afford to sell his product in the United States (Norman, 1996). For example, a power attachment product designed for manual wheelchairs is made in Kibbutz, Israel and sold throughout the world (Norman, 1996). Unfortunately, the inventors are unable to sell this product within the United States because the cost of liability insurance is too high (Norman, 1996). The cost of liability insurance for

innovative products has soared over the years because of several lawsuits and threats of lawsuits for non-risk free products (Norman, 1996).

Marketing Disabled Individuals As Consumers

With the many products available to disabled consumers, including the high cost of some products and the liability insurance involved, marketing the handicapped as consumers continues to be a problem. Manufacturers are becoming less interested in making products for the disabled because of poor sales and low revenues (Cheever, 1997). In addition, manufacturers are having a difficult time obtaining the interest of dealers and therapists to even learn about the products made available for people with disabilities (Cheever, 1997). It appears that "the higher the technology allowing quads to drive, the fewer people there are who are interested in recommending or selling them simply because there are fewer sales and less money to be made" (Cheever, 1997, p. 11). "It is easy to guess that over half of the people with disabilities have no idea of all the high-tech devices that are available" (Cheever, 1997, p. 11). For instance, it is estimated that only 20% of speech pathologists have any knowledge about devices used for enabling communication with others (Cheever, 1997). "One of the reasons for this is that they don't ever have or very rarely see nonverbal clients" (Cheever, 1997, p. 10). Disabled individuals face a profound percentage of professionals, therapist, and dealers who for certain reasons, are simply unaware of the products made available for the disabled (Cheever, 1997).

Although there is the existence of professionals who are completely unaware of or disinterested in the products made available, there are fortunately manufacturers and providers who are eager to help disabled individuals obtain adaptive driving products (Woodworth, 1996). The eagerness and willingness from professionals in this industry, stems from having special needs themselves (Woodworth, 1996). As a result, the "specialized products found to help

individuals often lead to the design, modification, and development of new products as well" (Woodworth, 1996, p. 68).

Marketing Strategies

The market-oriented strategy approach is used for discovering consumer needs, and then develop products and procedures to satisfy the identified need, and carefully evaluate the effectiveness of the product (Seekins, et. al., 1988). The market-oriented strategy is currently being recommended and used for adapting to the changing needs of rehabilitation consumers and providers (Seekins, et. al., 1988). The "Consumers' needs are reflected in problems that they encounter in their daily activities" (Seekins, et. al., 1988, p. 35). The accurate identification of consumer needs are directly related to close personal contact among researchers, providers, and consumers (Seekins, et. al., 1988).

The market-oriented approach also conducts assessments of disabled consumer concerns (Seekins, et. al., 1988). The assessments occur in large cities, smaller towns, and rural communities (Seekins, et. al., 1988). "These assessments have identified many common problems, including unenforced handicapped parking ordinances, improper media portrayal of disabled citizens, lack of employment opportunities, and less than dignified treatment of disabled consumers by service providers" (Seekins, et, al., 1988, p. 36). Identifying problems help to stablish research that is responsive to consumer needs while ensuring the quality of the products Seekins, et. al., 1988). Overall, the market-oriented strategy is designed to meet challenges and increase the welfare and independence of a variety of rehabilitation clients (Seekins, et. al., 1988).

Internet Marketing

Disabled individuals are frequently being marketed to conduct grocery shopping on-line. "On-line grocery shopping services offer many advantages for people with disabilities, with prices that can compare with those at usual retail outlets" (Silver, 1997, p. 26). This form of

internet grocery shopping is new and easy to use, plus it is cost-effective for people with disabilities (Silver, 1997). It is becoming increasingly popular because of the convenience of having groceries delivered straight to your door (Silver, 1997). “On-line grocery shopping is a customer-focused service which fundamentally simplifies people’s lives” (Silver, 1997, p. 27). It offers basically 80% of the same items you would receive in your grocery store (Silver, 1997). “This includes dried goods, produce, meat, dairy, health, beauty aids, stamps, paper goods, and many other specialty items” (Silver,1997, p. 27).

The services provided by on-line grocery shopping is constructed one of two ways (Silver, 1997). “First, they can contract with your local supermarket and deliver whatever is available from your local market” (Silver, 1997, p. 27). “Second, they can purchase distribution centers and supply a variety of products from a central source” (Silver, 1997, p. 27).

The majority of the on-line grocery shopping services are provided only in metropolitan areas (Silver, 1997). However, this service is currently in the process of expanding the market into different geographic areas (Silver, 1997). Presently, the types of consumers participating in on-line grocery shopping consist of individuals who are in their “thirty’s, college educated, from a double income household with children” (Silver, 1997, p. 28).

If on-line grocery shopping is not the ideal way of shopping for some disabled individuals, he or she can still go grocery shopping with convenience, safety, and comfort at certain national and local stores through the use of electric carts (Zielinski, 1999). Electric carts are beneficial for the disabled individual by conserving his/her energy and while alleviating anxiety while shopping (Zielinski, 1999). Electric carts are soon becoming available at most national and local stores in order to provide the consumer with comfort and security while shopping (Zielinski, 1999). “Many national stores are offering persons with walking disabilities the chance to shop in comfort and in safety” (Zielinski, 1999, p. 97), such as K-Mart, Target, and

Wal-Mart (Zielinski, 1999). Each of these national stores are offering electric carts for their consumers because they recognize the importance of meeting the needs of all consumers (Zielinski, 1999). Unfortunately, these three national stores do not provide electric carts at all of their stores (Zielinski, 1999). In addition, stores that provide electric carts are not always in abundance (Zielinski, 1999). Therefore, each of these national stores recommend the individual call ahead to reserve or to ensure the electric carts are available (Zielinski, 1999).

Attitudinal Barriers

Attitudinal barriers are probably the toughest for individuals with disabilities to overcome (Zielinski, 1999). An attitudinal barrier is a bias, in which The Americans With Disabilities Act of 1990 has defined as; "when one attributes characteristics, which have no basis in fact, but are often based on stereotyping and lack of familiarity, to persons who are different." (Available http: www.equal-access.com/equal-access-glossary.html, 1999, p.4). Congress has confirmed attitudinal barriers exist as determined through "census data, national polls and other studies documenting that people with disabilities, as a group, occupy an inferior status in our society and are severely disadvantaged socially, vocationally, economically, and educationally" (Available http: www.radiks.net/jschoen/cedisable.html, 1996, pp. 1-4). Congress has also determined "that people with disabilities are a discrete and insular minority who have been faced with restrictions and limitations, subjected to a history of purposeful unequal treatment, based on characteristics that are beyond the control of such individuals and resulting from stereotypical assumptions not truly indicative of the individuals abilities" (Available http: www.radiks.net/net/jschoen/cedisable.html, 19996, pp. 1-4). Therefore, "society needs to get to know in some depth persons with physical, sensory, and intellectual differences" (Zielinski, 1999, p. 96). "After that, it will become easier to include people with disabilities in everyday life activities" (Zielinski, 1999, p. 96).

Summary

Consumers with disabilities have had to wait over 200 years to have their rights protected under the constitution (Turner, 1994). In addition, they've had to listen to people debate whether their rights were even worth the costs (Turner, 1994). Therefore, consumers with disabilities and rehabilitation professionals must work side by side as they assume the role of advocates in the implementation of the ADA (Turner, 1994, p. 159). However, before assuming the role of advocates for the implementation of the ADA, all consumers with disabilities must have had the opportunity to be trained in the law and understand the rights and privileges contained therein (Turner, 1994). For if consumers with disabilities become vigilant and persistent in continually calling attention to instances of noncompliance, it will certainly have more of an impact than it would if it were coming from a lawyer or a non-disabled professional (Turner, 1994).

Although changes have occurred to make buildings and transportation modes barrier free for people with disabilities, the issue of inaccessibility continues to remain. “It will be a long and difficult struggle before the day comes when consumers achieve full equality in all aspects of their lives” (Turner, 1994, p. 158). Therefore, I feel compelled to conduct a study on the frequency of the misuse of handicapped parking spaces for individuals with disabilities when he or she attempts to participate in their community as a consumer.

CHAPTER THREE

Methodology

Introduction

This chapter will describe the research questions, the subjects under study, how they were selected for the inclusion of this study, and the time frame chosen for collecting the data. In addition, the construction of the instrument designed for this study for collecting information will be discussed as to its content, validity and reliability. Further, the methods for collecting the data and the procedures for data analysis will then be presented. This chapter will conclude with some of the methodological limitations.

Research Questions

This study had four main research questions. They were:

1. What is the frequency of handicapped parking spaces being consumed by non-disabled individuals?

2. Are the individuals who possess a handicapped parking hang-tag or sticker/license plate physically disabled?

3. Is there a direct relationship between affluent and non-affluent neighborhoods and the frequency of misuse of handicapped parking spaces?

4. Is there a difference between grocery stores and department stores and the frequency of misuse of handicapped parking spaces?

Description of Subjects/Selection of Sample

The subjects for this study were drivers and their occupants parking in handicapped parking spaces at various parking lots located in a mid-western city. The subjects were randomly observed for three consecutive weeks at one hour intervals, for a total of three hours of observation conducted at each site. Therefore, an overall total of thirty hours of observation were conducted for this study. A total of 133 subjects were observed, which consisted of males and

females. The trained observer did not approach the subjects. Therefore, the subjects name, address, phone number, age and social security were not disclosed to the trained observer. The selection of the parking lots for this study were based upon the size of the lot (approximately 100 to 400 regular parking spaces), the geographic area of the parking lots, and those which were most heavily frequented by customers. Therefore, parking lots connected to a shopping mall center, two grocery stores and three department stores were selected for this study. For a total of ten parking lots observed.

The parking spaces observed at the shopping mall center were the main entrance, the back entrance, the food court entrance and two other department store entrances. The front entrance consisted of approximately 200 regular parking spaces, four of which were handicapped spaces one of which was van accessible. The back entrance to the mall consisted of approximately 200 regular parking spaces, six of which were handicapped parking spaces with one being van accessible. The food court entrance consisted of approximately 100 regular parking spaces, four of which were handicapped parking spaces. Both department store entrances had consisted of approximately 150 regular parking spaces. One department store had six handicapped parking spaces, while the other store had five handicapped parking spaces, one being van accessible.

The two grocery stores selected for this study were determined by their geographic area. The author contacted a local realtor to obtain information regarding the level of income for the area. Grocery store number one was located in the geographic area of $80,000.00 homes. While grocery store number two was located in the geographic area of $50,000.00 homes. The parking lot of grocery store number one had approximately 450 regular parking spaces, ten of which were handicapped parking spaces, one being van accessible. Grocery store number two had approximately 100 regular parking spaces, four of which were handicapped parking spaces.

In addition to the parking lots of the shopping mall center and the grocery stores, three additional department stores were included for this study. Department store number one had approximately 400 regular parking spaces, fourteen of which were handicapped spaces, two being van accessible. Department store number two had approximately 200 regular parking spaces, ten of which were handicapped spaces. Department store number three had approximately 400 regular parking spaces, seven of which were handicapped spaces.

Description of Research Method

A descriptive case study of handicapped parking violations was conducted through observational methods. Observational methods for data collection was chosen for this study for the purpose of evaluating the frequency of handicapped parking violations. The subjects for this study consisted of drivers and their occupants observed parking in handicapped parking spaces. The subjects were not approached by the trained observer. Therefore, observational methods were selected for this study. The trained observer was situated either behind or in front of the row of handicapped parking spaces. In situations where the trained observer was unable to obtain a parking space in front of or behind the handicapped parking spaces, the observer stood outside in front of the store in order to obtain a clear view of all the handicapped spaces.

The subjects were observed as they left their vehicle to enter the stores. The subjects consisted of both the driver and the occupants of the vehicles parked in handicapped parking spaces. The trained observer recorded data for three hours at each site for three consecutive weeks. A total of thirty hours of observational trials were completed for data collection.

Relationship of Method and Procedures to Research Questions

Through observational methods, the trained observer recorded data that pertained to the following research questions: what is the frequency of handicapped parking spaces being consumed by non-disabled persons? Are the subjects using the handicapped parking permits

physically disabled? Is there a direct relationship between affluent and non-affluent neighborhoods and the frequency of misuse of handicapped parking spaces? And finally, is there differences between department stores and grocery stores and the frequency of misuse of handicapped parking spaces? Therefore, the trained observer marked the following on the instrument: the gender of the subjects, indicated whether a hang-tag or license plate/sticker was utilized, did the subjects have a visible disability, a description of the disability, and lastly, the trained observer indicated whether or not the subjects were elderly, and the type of devices utilized by the subject for mobility. In addition, the trained observer indicated on the instrument which parking lot was under observation and how many hours were conducted at the site.

Instrumentation

For this study, an instrument was developed specifically for collecting the data through observational methods (see appendix 1). The instrument was constructed into a chart format that consisted of seven columns for recording data. The first column represented the number of subjects observed, e.g. subject 1, subject 2. In addition, each subject had an identifier that correlated with the business under observation, e.g. subject T1 (T representing the first letter of the business). The second column represented the gender of the driver. The third column represented a yes or no for hang-tag displayed in vehicle. The fourth column represented a yes or no for a displayed handicapped license plate/sticker. The fifth column represented a yes or no pertaining to a visible physical disability of the driver, the sixth column was reserved for a description of the physical disability of the driver and/or occupant. The seventh column was reserved for the trained observer to make comments about the characteristics of the subject, such as elderly and the type of assistive devices utilized by the subjects.

In addition, the chart contained a section for the trained observer to identify the following: the business parking lot under observation, the number of handicapped parking spaces,

an approximate number of regular spaces it contained and the hour of interval for the observational trial. Because the instrument has been constructed for this study, no measurement of validity and reliability has been documented. For scoring purposes of this study, the trained observer provided the following columns with a number. For the gender column, male was identified with the number one, and female was identified with the number two. In the hang-tag column, yes was identified with the number one, and no was identified with the number two. The handicapped sticker column identified yes with the number one, and no with the number two. The physically disabled column identified yes with the number one, and no with the number two. In the description column, if the driver was disabled, he/she was recorded as "DD" for driver disabled. If however the driver was not recorded as having a physical disability, he/she was recorded as "DND", driver-not-disabled. If the occupant(s) of the vehicle were observed as having a physical disability, both the disability and gender were recorded. Therefore, a disabled female occupant would be recorded as "DF", e.g. disabled female. Likewise, a disabled male occupant would be recorded as dm, e.g. disabled male. In addition, the physical description column recorded the type of physical disability of the driver and/or occupant. For instance, if the driver and/or occupant walked with a slight limp, "SL" was recorded for slight limp. Likewise, "L" represented limp, "WB" for walked briskly, "WN" for walked normal, and "WS" for walked slowly.

As mentioned above, the last column of the chart was reserved for the trained observer to make comments regarding the assistive technology used for mobility, and the estimated age of the subjects. For instance, whether the subjects were elderly or not. The assistive technology utilized by the subjects were recorded as follows: "C" for cane, "OT" for oxygen tank, "WA" for walker, and "WC" for wheelchair. For scoring purposes, if the subject was recorded as being elderly, he/she was identified with the number one, e.g. E1, "E" for elderly. If the subject was not

recorded as being elderly, he/she was identified with the number two, e.g. E2.

Procedures for Data Collection

Each of the ten parking lots were observed at one hour intervals for three hours at each site, for a total of thirty hours of observational trials completed. The time frame selected for the observations of each location were determined by the peak hours of shopping at each place of business. The author conducted a pilot study prior to data collection to select the appropriate time frame for conducting observations for determining when each of the businesses were heavily frequented by customers.

The parking lots of the shopping mall center were observed on Saturday's for three consecutive weeks. Each entrance was observed for a total of three hours at one hour intervals. The front entrance was observed from 11 a.m. to 12 p.m. The back entrance to the mall was observed from 11 am to 12 p.m.. The food court entrance was observed from 12 p.m. to 1 p.m.. The two department store parking lots of the shopping mall center were observed between 1 p.m. to 2 p.m., and 2 p.m. and 3 p.m..

The three additional department store parking lots that were observed for this study were conducted on Sunday's between 12:30 p.m. and 1:30 p.m., between 3:00 p.m. and 4:00 p.m., and between 6:30 p.m. and 7:30 p.m.. Each of these sites were observed for three consecutive weeks at one hour intervals.

Grocery store number one (affluent neighborhood), was observed on Sunday between 4 p.m. and 5 p.m. observations. While grocery store number two (non-affluent neighborhood), was observed on Sunday between 9 a.m. and 10 a.m.. These observations also occurred weekly for three consecutive weeks at one hour intervals.

Procedures for Data Analysis

This descriptive study will utilize the frequency, mean, median, and standard deviation for analysis of data. Descriptive statistics will be used to compare the results between affluent and non-affluent neighborhood parking lots and to compare the results between grocery stores and department stores and the frequency of misuse of handicapped parking spaces. In addition to determining the frequency and percentages of handicapped parking spaces being utilized by non-disabled individuals and the frequency and percentages of handicapped parking permits.

Limitations

The confounding variables of this methodology can be attributed to the methodology selected for this study. The data collected for this study was obtained by observing the subjects. No verbal interaction occurred between the subjects and the trained observer. Therefore, the data collected and recorded for this study was based upon the trained observer's judgement of deciding whether or not the subjects had a physical disability. As a result, subjects who appeared not to have a physical disability and recorded as non-disabled, may in fact had a physical disability. Thereby causing a limitation with data collected for this study. In addition, a limitation may also occur in determining the observed subjects elderly or non-elderly. The trained observer was making a judgement decision based upon the physical appearance of the subject.

CHAPTER FOUR

Results and Discussion

Introductory and Organizational Statement

This chapter will present the results of the descriptive study of handicapped parking violations in a mid-western city. The demographic information and descriptive statistics will be reported first. Data collected on each of the research questions will then be given.

Demographic Information

The subjects for this study were observed in a mid-western city at various business parking lots. Which included two grocery stores, a shopping mall center, and three department stores. The subjects consisted of drivers and their occupants. A total of 133 subjects were observed. Seventy-six percent (n=101) of the subjects were drivers, and 24% (n=32) of the subjects were occupants. Forty-one percent (n=55) of the subjects were males and 59% (n=78) of the subjects were females. Fifty-two percent (n=69) of the subjects were considered elderly, while 48% (n=64) were not considered elderly.

Research Question 1:

1. What is the frequency of handicapped parking spaces being illegally consumed by non-disabled individuals? A descriptive statistic was run on the data pertaining to this research question. The results indicated that there was a low frequency of handicapped parking spaces being consumed illegally by non-disabled individuals. Two percent (n=3) of the sample (n=133) was recorded as not having a physical disability and did not utilize a hang-tag or license plate/sticker when parking in handicapped parking spaces.

Research Question 2:

2. Are the individuals who possess a handicapped parking hang-tag or license

plate/sticker physically disabled? A descriptive statistic was run on the data pertaining to this research question. The results indicated that there was a high frequency of individuals who did not have a physical disability but possessed a hang-tag or license plate/sticker when parking in handicapped parking spaces. Eighty-three percent (n=109) of the sample used hang-tags, 15% (n=20) of the sample used handicapped license plate/sticker. Of those subjects that utilized a hang-tag (n=109), eighty-three percent (n=65) were recorded as not having a physical disability. Likewise, of those subjects that utilized a license plate/sticker (n=20), 13% were recorded as not having a physical disability. While only 80% (n=44) of the entire sample was recorded as having a physical disability while utilizing a hang-tag, and only eighteen percent (n=10) of the entire sample was recorded as having a physical disability while utilizing a license plate/sticker. The results also demonstrated that the majority of individuals without a physical disability while utilizing the handicapped parking permits were the elderly. Fifty-two percent of the subjects (n=69) were recorded as elderly.

Therefore, the overall results for research question two has demonstrated that there was a higher percentage of non-disabled individuals utilizing a handicapped parking permit, than there were disabled individuals utilizing a handicapped parking permit.

Research Question 3

3. Is there a direct relationship between affluent and non-affluent neighborhoods and the frequency of misuse of handicapped parking spaces? A descriptive statistic was run on the data pertaining to this research question. The results indicated that there was no direct relationship between affluent and non-affluent neighborhoods and the misuse of handicapped parking spaces. For the affluent neighborhood, 56% of the subjects were recorded as not having a physical disability while parking in handicapped parking spaces. While 44% of the subjects in the affluent

neighborhood were recorded as having a physical disability when parking in handicapped parking spaces. In the non-affluent neighborhood, 55% was recorded as not having a physical disability when parking in handicapped parking spaces. While 45% of the subjects were recorded as having a physical disability. Therefore, the data has demonstrated that the frequency in the misuse of handicapped parking spaces was not greater or less between affluent and non-affluent neighborhoods.

Research Question 4

4. Is there a difference between grocery stores and department stores and the frequency of misuse of handicapped parking spaces? A descriptive statistic was run on the data pertaining to this research question. The results indicated that there was a difference in the percentages of frequency between grocery stores and department stores and the frequency of misuse of handicapped parking spaces. The three department stores that were observed had each demonstrated that there was a 50% or more in misuse of handicapped parking spaces as opposed to the grocery stores observed for this study. For instance, 78% of the subjects at department store number one were recorded as not disabled. Fifty percent of the subjects for department store number two were also recorded as not disabled, while 74% of the subjects at department store number three were also recorded as not disabled.

The two grocery stores observed for this study, the data demonstrated that 56% of the subjects observed at the affluent neighborhood and 55% of the subjects observed at the non-affluent neighborhood, were recorded as not having a disability when parking in handicapped parking spaces. Therefore, the misuse of handicapped parking spaces occurred more frequently at department stores than it did at grocery stores.

Discussion

The results for research question number one did relate to its original question. The

results demonstrated that there was a small percentage of handicapped parking spaces being obtained illegally, e.g., neither a physical disability or a handicapped parking permit were observed. The results for this research question concur with a similar study that was conducted for determining the appropriate strategies for reducing handicapped parking violations. Researchers, Suarez De Balcazar et. al, 1988 concluded that the inappropriate use of handicapped parking stalls occurred at a lower percentage, respectively between 4% and 7%.

The results for research question number two did relate to its original question. The results demonstrated that there was a high percentage of non-disabled individuals misusing handicapped parking permits. The trained observer used the following guidelines when determining if the subjects were physically disabled: walked with slight limp (SL), walked with limp (L), walked briskly (WB), walked normally (WN), walked slowly (WS), walked with walker (WA), walked with cane (C), walked with oxygen tank (OT), and utilized a wheelchair (WC). Therefore the findings for this study indicated the following: 14% (n=19) walked with slight limp (SL), 38% (n=50) walked with a limp (L), 7% (n=9) walked briskly (WB), 26% (n=35) walked normally (WN), 6% (n=8) walked slowly, 3% (n=4) walked with a walker (WA), 20% (n=27) walked with cane (C) and 4% (n=5) utilized a wheelchair (WC). The results for this research question cannot be discussed in terms of its agreement or disagreement with previous results obtained by other researchers in other studies.

The results for research question number three did relate to the original question. The results indicated there was no direct relationship between affluent and non-affluent neighborhoods and the frequency of misuse of handicapped parking spaces. However, the sample size for both affluent and non-affluent neighborhoods were too small to make a reliable and valid statement that one neighborhood had a higher frequency than the other in the misuse of handicapped parking spaces. In addition, the results cannot be discussed in terms of its agreement

or disagreement with previous results obtained by other researchers in other studies.

The results for research question number four did relate to its original question. The results had demonstrated that there was a difference in the percentages between grocery stores and department stores and the frequency of misuse of handicapped parking spaces. The results of this research question cannot be discussed in terms of its agreement or disagreement with previous results obtained by other researchers in other studies.

CHAPTER FIVE

Summary, Conclusions, and Recommendations

Introduction

This chapter will include a summary of the study and the conclusions drawn from this study. The chapter will conclude with some recommendations for further research.

Summary

The subjects for this study consisted of drivers and occupant(s) observed parking in handicapped parking spaces. The subjects were randomly observed at one hour intervals, for three consecutive weeks. There were ten business parking lots that were chosen for this study. The business parking lots consisted of three department stores, two grocery stores located in affluent and non-affluent neighborhoods, and five parking lots of a shopping mall center. Each of the business parking lots were observed at the exact same time for three consecutive weeks. The time-frame selected for this study was based upon a pilot study conducted for determining the appropriate time-frame. The appropriateness of a time-frame was determined by how heavily frequented the businesses were by customers.

The instrument used to collect data was specifically designed for this study. The instrument was constructed into a chart format consisting of seven columns. The columns pertained to the following: the number of subjects observed, the gender of the subjects, whether a hang-tag or license plate/sticker was utilized by the subjects, whether the subjects had a physical disability, and if so the description of the physical disability, and a section reserved for the trained observer to make comments regarding whether the subjects were elderly and if the occupant(s) were physically disabled when the driver was observed and recorded as not having a disability.

The procedures for collecting and recording the data was based upon observational methods. The subjects for this study were randomly chosen. They were observed and recorded as

they parked in handicapped parking spaces. The gender of each subject was also recorded. If the subject utilized a hang-tag or license plate/sticker, the trained observer recorded “yes”. If the subject did not utilize a handicapped permit, the trained observer recorded a “no” for no permits utilized. Further, if the subject was observed as having a physical disability, a “yes” was recorded. However, if the driver was not observed as having a physical disability, the trained observed marked “no” for no disability. In addition, the trained observer recorded “DND” for driver-not-disabled. Likewise, if the driver was recorded as having a physical disability, “DD” for driver-disabled was recorded. “DND”, “DD”, the type of assistive technology, and a description of the disability was recorded in the “description of physical disability” column. For instance, “SL” for slight limp and “C” for a cane was utilized for mobility. For the seventh column, the trained observer recorded the letter “E”, (identifying the subject as elderly), “DF” for disabled female occupant, and “DM” for disabled male occupant.

Conclusions

Although the sample size was small, the findings of this study addressed the issues that were identified in chapters one and two. The findings demonstrated that handicapped parking spaces were not being illegally obtained by individuals who were not disabled. However, the findings of this study has also demonstrated that there was a significant misuse in handicapped parking permits. Therefore, although a misuse of handicapped parking permits are not considered a violation, it is definitely a misuse of handicapped parking spaces. These findings relate to the literature review that was conducted for this study. The literature review demonstrated that there was a common frustration experienced by individuals with disabilities. A frustration of continually observing individuals without physical disabilities utilizing handicapped parking permits in order to obtain prime stalls at business parking lots.

The findings of this study have also indicated that there was not a direct relationship

between affluent and non-affluent neighborhoods and the frequency of misuse of handicapped parking spaces. Therefore concluding that the geographical area was irrelevant when comparing which geographical area would have a higher misuse of handicapped parking violations than the other. Unfortunately however, the findings from this research question cannot make a generalization about the population. Because the sample size for determining the difference between affluent and non-affluent neighborhoods were too small to adequately analyze the data. Therefore, based upon the percentages it would appear there is no direct relationship but it is not possible at this time to make an absolute definitive statement that the results are reliable.

The findings for research question number four have also indicated that the handicapped parking violations through the use of handicapped permits occurred more often at department stores than at grocery stores. Therefore concluding that the type of business, as it pertains to the large volume of customers, may have a substantial significance on the frequency of handicapped parking violations. However, making a generalized statement to the population at this time cannot be stated. Because the sample size was too small to make an adequate analysis of the data. Therefore, although it may appear that there was a significant difference between department stores and grocery stores and the frequency of misuse of handicapped parking spaces, a definitive statement about the results of research question number four as being reliable cannot be stated.

The overall findings of this study have indicated that handicapped parking violations in a mid-western city are frequently occurring through the use of handicapped parking permits by individuals who do not have a physical disability. The results from this study clearly indicate that the responsibility of solving the problem of misusing handicapped parking permits may rely upon the Department of Motor Vehicles who distribute handicapped parking permits. In addition, educating the placard holders of the specific guidelines of the proper use of the placard, prior to the date of issuance, such as: the appropriate use of the placard occurs when it is prominently

displayed in the vehicle, parked in the building's designated area, and the individual has left their vehicle to enter the building. Until education, awareness, and tougher guidelines occur, people need to realize that they are being disrespectful and are taking away something from other people (Gregory, 1999, p. 1).

Recommendations for further research

Several suggestions are offered for further research on the direct relationship between affluent and non-affluent neighborhoods and the frequency of misuse of handicapped parking spaces. And the difference between grocery stores and department stores and the frequency of misuse of handicapped parking spaces. These are:

1. Replication of this study using a larger sample could enhance the results for possible generalization.
2. Modifying the instrument to include separate columns for identifying the number of occupant(s) observed along with identifying their gender. To also include a separate column for recording when a handicapped parking permit has been misused.
3. Compare the variables between legal handicapped parking violations and illegal handicapped parking violations.
4. Clearly define the legal and illegal use of handicapped parking permits.

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Appendices

Name of Business_____
Number of Handicapped Parking Spaces_____
Approximate Number of Regular Spaces_____
Observation Number Hour_____

Subjects	Male\ Female	Hang-Tag Yes/No	Handicapped Sticker Yes/No	Physically Disabled Yes/No	Description of Physical Disability	Comments
Subject #1						
Subject #2						
Subject #3						
Subject #4						
Subject #5						
Subject #6						
Subject #7						
Subject #8						
Subject #9						
Subject #10						
Subject #11						
Subject #12						
Subject #13						
Subject #14						